

**Amendments to the Specification:**

**Please replace paragraph [0001] with the following paragraph:**

[0001] This application is a continuation of U.S. Application Serial No. 09/326,720, filed June 7, 1999, now U.S. Patent No. 6,635,993, the entirety of which is incorporated herein by reference.

**Please replace paragraph [0036] with the following paragraph:**

[0036] As shown in ~~figure~~Figure 1(a), the inventors provided a porous bone structure 2, made of a sintered product of metal powder and with open pores, between the metal member 7 and sealing member 4. A glass material, not shown, was then positioned on the bone structure 2. The melting point of the bone structure 2 is adjusted so as to exceed that of the glass material.

**Please replace paragraph [0037] with the following paragraph:**

[0037] When the glass material was melted, as schematically shown in ~~figure~~Figure 1 (b), the inventor found that the melted glass was impregnated into the open pores to form main phase 14, comprising the porous bone structure and glass phase impregnated into the open pores. The inventor further found that the thus melted glass is flown into the interface of the sealing member 4 and the main phase 14 so that the bone structure is slightly floated from the surface of the sealing member 4 to form the intermediate glass layer 13. The main phase 14 and intermediate glass layer 13 together form a joining portion 6 joining the metal member 7 and sealing member 4. 41 is a joint interface of the sealing member 4. The joining portion 6 extends to the region near the protrusion 42. A joining glass layer 48 is formed between the protrusion 42 and the end portion 7a of the metal member 7.

**Please replace paragraph [0038] with the following paragraph:**

[0038] Such structure will be explained referring to scanning type microscopic photographs of ~~figures~~Figures 2, 3, 4 and 5, and line diagrams of ~~figures~~Figures 6

and 7. Figure 3 is an enlarged view of the photograph of ~~figure~~Figure 2, and ~~figure~~Figure 6 is a diagram illustrating the photograph of ~~figure~~Figure 3. The intermediate glass layer 13 and main phase 14 is formed on the surface of the sealing member 4. The main phase 14 is composed of the bone structure 15 and the glass phase 10 impregnated into open pores of the bone structure 15. The intermediate glass layer 13 is composed of crystallized glass, having the same composition as the impregnated glass phase 10, with crystalline phases 11 and amorphous phases 12 separated with each other. The reason is that only the easy-to-crystallize components contained in the glass material are actually crystallized in the resultant glass layer. Figure 5 is an enlarged view showing the photograph of ~~figure~~Figure 4 and ~~figure~~Figure 7 is a diagram illustrating the photograph of ~~figure~~Figure 5. The main phase 14 of the joining portion 6 is formed on the surface of the metal member 7.

**Please replace paragraph [0041] with the following paragraph:**

[0041] Further, the main phase may function as a relaxing layer of the difference of the thermal expansion coefficients of the metal and sealing members, thus improving the resistance to repeated thermal cycles. That is, as shown in the schematic diagram of ~~figure~~Figure 8, when the sealing member 4 has a thermal expansion coefficient larger than that of the metal member 7, the thermal coefficient of the main phase 14 may be near to that of the metal member 7, because the main phase is mainly composed of the metal porous structure. The thermal coefficient of the intermediate glass layer 13 may generally be near to that of the sealing member.

**Please replace paragraph [0064] with the following paragraph:**

[0064] Figures 1, 9 and 10 show the embodiments of the end portions of the lamp to which the invention is applicable. Further explanation of each portion shown in ~~figures~~Figures 1 and 8 will be omitted below.

**Please replace paragraph [0066] with the following paragraph:**

[0066] As shown in ~~figure~~Figure 9, an axis 27 of an electrode system 18 is attached to a clogging member 19 (preferably made of a metal), the electrode system 18 is inserted into the inner space of a ceramic discharge tube and the clogging member 19 is inserted into the inner space of the metal member 7. As shown in ~~figure~~Figure 10, an end portion 19a of the clogging member 19 is joined, by means of the above welding or the like, to the metal member 7 to form a sealing portion 21, thereby sealing an ionizable light-emitting substance and a starter gas in the inner space of the ceramic discharge tube from the outer atmosphere and providing an electric power to the electrode system through the clogging member 19. A protrusion 42 functions to position the metal member 7 and to make flow path of the corrosive gas longer.

**Please replace [0067] with the following paragraph:**

[0067] Figure 11 is a diagram schematically showing an embodiment of a high pressure discharge lamp. Each portion already shown in ~~figures~~Figures 1, 9 and 10 is assigned the same numeral as that in these figures and the explanation will be omitted.

**Please replace [0069] with the following paragraph:**

[0069] In the embodiment shown in ~~figure~~Figure 12, the sealing member 4 has no protrusion on its inner wall surface. And, the metal member 7 and the inner wall surface of the sealing member 4 is joined substantially along the full length of the through hole 46 of the sealing member 4. 6A is a joining portion, 13A is an intermediate glass layer and 14A is main phase.

**Please replace [0070] with the following paragraph:**

[0070] In the embodiment shown in ~~figure~~Figure 13, the inner wall surface 1b of the end portion 1a of the ceramic discharge tube 1 extends straightforwardly in the direction of the main axis of the ceramic discharge tube. A hollow 31 is

formed in the end portion 1d of the inner wall surface 1b of the end portion 1a. An end portion 7a of a metal member 7 is supported in the hollow 31. A joining portion 6B is interposed between the discharge tube 1 and the metal member 7 and join them with each other in the hollow 31 to secure the air-tightness. 32 is a metallized layer.

**Please replace [0072] with the following paragraph:**

**[0072]** The embodiment of ~~figure~~Figure 15 have no protrusion on the inner wall surface 1b of the end portion 1a of the discharge tube 1 and the inner wall surface 1b extends substantially straightforwardly. The inner wall surface 1b of the end portion 1a and the metal member 7 are joined with each other substantially along the full length of an opening 40 of the end portion 1a. 6C is a joining portion, 13C is an intermediate glass layer and 14C is main phase.

**Please replace [0074] with the following paragraph:**

**[0074]** In the embodiment of ~~figure~~Figure 16, a first sealing member 37 is inserted within an inner surface 38b near an end face 38c of the ceramic discharge tube 38 of a high pressure discharge lamp. An outer surface 38a of the discharge tube 38 extend straightforwardly in its longitudinal direction. The thickness of the discharge tube 38 is substantially uniform. A second cylindrical sealing member 39 is inserted within the interior of the first sealing member 37. The sealing members 37 and 39 are made of a ceramics or cermet, same as the sealing members described above. The inventive joining portion 6D is formed within the second sealing member 39.

**Please replace [0077] with the following paragraph:**

**[0077]** In the embodiment shown in ~~figure~~Figure 17, as shown in ~~figure~~Figure 16, the inventive joining portion 6E is formed within an opening 40 of the end portion 1a of the discharge tube 1.